

THE EFFECT OF GRDP, MINIMUM WAGE, AND THE NUMBER OF INDUSTRIAL ENTERPRISE UNITS ON LABOR ABSORPTION IN THE MANUFACTURING SECTOR IN LAMPUNG PROVINCE 2017-2022

PENGARUH PDRB, UPAH MINIMUM, DAN UNIT USAHA INDUSTRI TERHADAP PENYERAPAN TENAGA KERJA SEKTOR INDUSTRI PENGOLAHAN DI PROVINSI LAMPUNG TAHUN 2017-2022

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ABSTRACT

The manufacturing industry plays an important role in the economy as a leading sector and as a provider of employment for the population to meet the job market. This research aims to analyze the influence of the manufacturing industry sector in absorbing labor. The variables used include Gross Regional Domestic Product (GRDP) of the manufacturing industry sector, minimum wage in Regencies/Cities, the number of manufacturing industry units in absorbing labor in the manufacturing industry sector in the Lampung Province during the period of 2017-2022. The analytical methodology used is the panel data regression analysis method using classic assumption testing, model suitability testing, t-test and f-test hypothesis testing, and coefficient of determination analysis. The results show that GRDP of the manufacturing industry sector and the number of manufacturing industry units have a positive and significant influence on labor absorption, while minimum wage in regencies/cities has a negative and significant influence on labor absorption in the Lampung Province during the period of 2017-2022.

Keywords: Labor Absorption, GRDP, Minimum Wage, Manufacturing Industry Units, Manufacturing Industry Sector

ABSTRAK

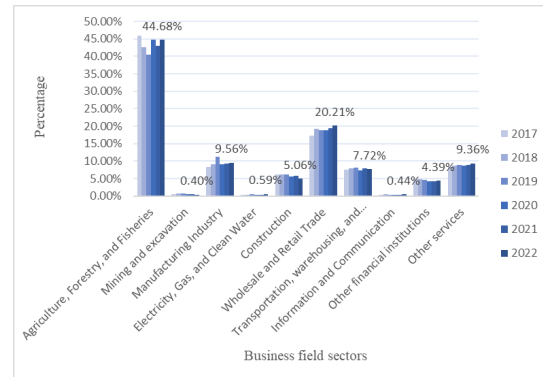
Industri pengolahan memegang peranan penting di dalam perekonomian sebagai sektor pemimpin dan sebagai penyedia lapangan kerja bagi penduduk untuk memenuhi pasar kerja. Penelitian ini bertujuan untuk menganalisis bagaimana pengaruh sektor industri pengolahan dalam menyerap tenaga kerja. Variabel yang digunakan antara lain PDRB sektor industri pengolahan, Upah minimum Kabupaten/Kota, jumlah unit usaha industri pengolahan terhadap penyerapan tenaga kerja sektor industri pengolahan di Provinsi Lampung periode 2017-2022. Metodologi analisis yang digunakan adalah metode analisis regresi data panel dengan menggunakan pengujian asumsi klasik, pengujian kesesuaian model, pengujian hipotesis uji-t dan uji-f, serta analisis koefisien determinasi. Hasil penelitian menunjukkan bahwa PDRB sektor industri pengolahan dan jumlah unit usaha industri pengolahan berpengaruh positif dan signifikan terhadap penyerapan tenaga kerja, sedangkan upah minimum kabupaten/kota berpengaruh negatif dan signifikan terhadap penyerapan tenaga kerja di Provinsi Lampung tahun 2017-2022.

Kata Kunci : Penyerapan Tenaga Kerja, PDRB, Upah Minimum, Unit Usaha Industri, Sektor Industri Pengolahan

INTRODUCTION

In the concept of the economic development planning process, the main aim is to address economic issues such as equitable development, income distribution, expanding employment, and reducing the poverty rate. This is an important indicator for a country or region in dealing with economic problems, one of which is the issue of employment (Iksan et al., 2020).

The economic development planning is outlined in the strategic plan, namely *Rencana Pembangunan Jangka Menengah Nasional (RPJMN)* for the 2020-2024 period, which explains that one of the government's policy directions is related to the improvement of human resources (HR) that are competitive and qualified, and can provide access to job opportunities for its citizens who are seeking or have not yet obtained employment (Bappenas, 2020). Therefore, it can be stated that the direction and strategic development carried out are in accordance with the planning. This is a form of policy to make the industrial sector a provider of employment for the population to meet the job market. The development of employment in Indonesia can be observed in the development indicators of a region, where the condition of economic growth is part of the series of activities carried out by a region to develop economic activities to improve the standard of living of the people to a better level. Therefore, to observe economic growth data, it can be seen from the increase in per capita income of the population, or called Gross Domestic Product (Todaro & Smith, 2015).



Fixture 1. Population Aged 15 Years and Over Who Worked During the Previous Week by Main Job according to Province of Lampung 2017-2022

Source: Badan Pusat Statistik (BPS) Lampung Province, Data Processed 2023

Based on the *Badan Pusat Statistik* (BPS) data regarding the number of workers working in various sectors in the period 2017-2022, the agricultural, forestry, and fisheries sector occupies the first position as the largest contributor of the most workers in Lampung Province, with 44.68% or 1,914,133 people working in 2022. The second position is occupied by the wholesale and retail trade sector with 20.21% or 865,967 people, and the third position is held by the manufacturing industry sector with 9.56% or 409,629 people, and the smallest projected number is in the mining and excavation sector with 0.40% or 17,131 people in 2022. Based on these projections, the manufacturing industry is still considered to have a low absorption of workers in Lampung Province. Although the trend decreased in 2020 due to the Covid-19 pandemic, it increased in 2021 (Badan Pusat Statistik, 2024). This is still a problem because the manufacturing industry in Lampung Province is still considered to have a low absorption of workers. Therefore, the manufacturing industry sector needs assistance as Indonesia's current economic

structure is moving towards a transformation from the agricultural sector to the industrial sector, which is a plan to accelerate economic development through industrialization.

The manufacturing industry plays an important role in the Indonesian economy, especially in Lampung Province which has the potential to develop the manufacturing sector by producing a large number of goods and services and creating job opportunities (Dardanila & Sari, 2023). The development of the industrial sector is inseparable from the role of human beings (workers) as one of the factors of production. This role has led to the production of many sub-sectors in the industrial sector. This is related to the number of industrial units or companies, ranging from the smallest to the largest scope. According to the *Badan Pusat Statistik* (BPS), industrial enterprises are classified into four groups based on the number of workers employed in the sector, consisting of large, medium-sized, small, and micro industries.

The development of the industrial sector in Indonesia, especially in Lampung Province, is also related to the income or wages received by workers in this sector. Based on data from the BPS, the minimum wage in provinces on the island of Sumatra is derived from the BPS publication for 2023. It can be described that in 2022, the highest minimum wage was in Bangka Belitung Province, set by the government at Rp. 3,264,844 per month. The second position was in Aceh Province, reaching Rp. 3,166,460 per month. Lampung Province is one of the second lowest provinces in Sumatra with its minimum wage set at Rp. 2,440,486 per month. It can be concluded that the minimum wage in Lampung Province is still relatively low

and far from the level in other provinces on the island of Sumatra (Badan Pusat Statistik, 2023). Wage is one of the most important factors because for a worker, the wage received is assumed to be income to meet their living standards. This is related to the role of the government in setting policies related to the minimum wage as a reference for companies and income distribution. The policy of increasing the minimum wage is considered capable of improving wage disparities in many countries with the aim of improving income distribution (Rohmah & Sastiono, 2021).

Based on the above description, supported by several facts and data, the author is interested in researching “**The Effect Of GRDP, Minimum Wage, and The Number Of Industrial Enterprise Units on Labor Absorption In The Manufacturing Sector in Lampung Province 2017-2022**”.

RESEARCH METHODS

This research uses a descriptive research type with a quantitative approach. It aims to analyze the relationship between the dependent and independent variables. The analytical tool used is the Ordinary Least Square (OLS) method with panel data regression analysis or a combination of Cross Section and Time Series data (Baltagi, 2005).

The study utilizes cross-section data from 15 Districts and Cities in the Province of Lampung, combined with time series data for the period from 2017 to 2022. The independent variables in this study include economic growth with the proximate data of Gross Regional Domestic Product (GRDP) in the manufacturing sector, wage variables with the proximate data of minimum wages in

Districts/Cities, and the number of industrial business units with the proximate data of the number of manufacturing industry business units consisting of small, micro, medium, and large industries. The dependent variable in this study is the absorption of labor in the manufacturing sector in the Province of Lampung. The equation for this study is as follows.

$$LNPTK_{it} = \beta_0 + \beta_1 PDRB_{1it} - \beta_2 LNUMK_{2it} + \beta_3 LNUUI_{3it} + \epsilon_t$$

Explanation :

$LNPTK$: Labor Force Absorption (in thousands)

β_0 : Constant

$\beta_1, \beta_2, \beta_3$: Regression Coefficients

$PDRB_{1it}$:Constant Price Gross Regional Domestic Product of the Industrial Sector (in billion Rupiah)

$LNUMK_{2it}$:Minimum Wage of Regency/City (in million Rupiah)

$LNUUI_{3it}$: Number of Manufacturing Business Units (in unit)

ϵ_t : *Error term*

RESULTS AND DISCUSSIONS

Model Selection Test

In this study, testing is conducted using three approaches of model adequacy methods, namely the Common Effect Model, Fixed Effect Model, and Random Effect Model. To test the suitability of these models, appropriate tests such as the Chow test, the Hausman test, and the Lagrange Multiplier test are used (Gujarati & Porter, 2009).

Chow Test

The purpose of this test is to determine or choose the best model used in estimating panel data between CEM or FEM. If the probability value $\alpha < 0.05$,

then the most relevant model for this research is the FEM model. Conversely, if the probability value $\alpha > 0.05$, then the most relevant model for this research is CEM.

Table 1. Chow Test Results

<i>Effect Test</i>	<i>Statistic</i>	<i>d.f.</i>	<i>Prob.</i>
<i>Cross-section F</i>	9.998694	(14,72)	0,0000

Source: Eviews 10 Application Data Processing, 2024

The results of the chow test show a probability value of $0.000 < 0.05$, indicating that the FEM model is the most relevant and best model to use in this research.

Hausman Test

This test aims to determine or select the best model used in estimating panel data between Fixed Effects Model (FEM) or Random Effects Model (REM). If the probability value $\alpha < 0.05$, then the most relevant model for this study is the FEM model. Conversely, if the probability value $\alpha > 0.05$, then the most relevant model for this study is the REM.

Table 2. Hausman Test Results

<i>Test Summary</i>	<i>Chi-Sq. Statistic</i>	<i>D.f.</i>	<i>Prob.</i>
<i>Cross-section</i>	3.844473	3	0.2788
<i>random</i>			

Source: Eviews 10 Application Data Processing, 2024

The result of the Hausman test shows a probability value of $0.2788 < 0.05$, which indicates that the Random Effects Model (REM) is the most relevant and best model to use in this research.

Langrange Multiplier Test

This test aims to determine or select the best model used to estimate panel data between REM or CEM. If the probability value $\alpha < 0.05$, then the most relevant model for this research is the REM model. Conversely, if the probability

value $\alpha > 0.05$, then the most relevant model for this research is the CEM model.

Table 3. LM Test Results

Null Alternative	Cross-section	Period One-sided	Both
Breusch-Pagan	73.3908 (0.0000)	0.717292 (0.3970)	74.10818 (0.0000)

Source: Eviews 10 Application Data Processing, 2024

The result of the Lagrange multiplier test shows a probability value of $0.000 < 0.05$, indicating that the REM model is the most relevant and best model to use in this study.

Classical Assumption Testing

This study conducted classical assumption testing using several tests, including normality test, multicollinearity test, and heteroscedasticity test.

Normality Test

In the normality test, we examine whether the residuals of the regression are normally distributed or not (Widarjono, 2018). The criteria for the normality test is to observe the probability value of the Jarque-Bera statistic. If the probability value is greater than $\alpha = 0.05$, then the data is normally distributed. Conversely, if the Jarque-Bera statistic is less than $\alpha = 0.05$, then the data is not normally distributed.

Table 4. Normality Test Results

Jarque-Bera (JB)	1.392005
Prob.	0.498574

Source: Eviews 10 Application Data Processing, 2024

The results of the normality test indicate that the Jarque-Bera (JB) value is 1.392005 with a probability value of $0.498574 > 0.05$, which means that the data is normally distributed.

Multikolinearity Test

In testing for multicollinearity to determine whether there is a linear correlation or relationship between independent variables in a regression model. The criteria in multicollinearity testing is if all independent variables show values below the threshold of < 0.80 , then they are free from multicollinearity issues.

Table 5. Multikolinearity Test Results

Variable	PDRB	LN(UMK)	LN(UUI)
PDRB	1,000000	0.152998	0.588363
LN(UMK)	0.152998	1.000000	0.017489
LN(UUI)	0.588363	0.017489	1.000000

Source: Eviews 10 Application Data Processing, 2024

The test results show that the correlation value of all independent variables is less than 0.80, so it is concluded that the data is free from multicollinearity issues.

Heteroscedasticity Test

In this test, the Glejser test is carried out to determine whether there is a hetero problem with the regression of the absolute residual values against the variable with the assumption of a probability value > 0.05 , then the data is free from heteroscedasticity problems.

Table 6. Heteroscedasticity Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.31877	1.358	1.707	0.0914
PDRB	1.06E-05	8.47e-06	1.2513	0.2142
LN(UMK)	-0.12721	0.0915	-1.389	0.1684
LN(UUI)	-0.04033	0.0252	-1.599	0.1134

Source: Eviews 10 Application Data Processing, 2024

Based on the Glejser test results above, it shows that all independent variables have probability values > 0.05 ,

therefore, the data does not have heteroskedasticity problems.

Hypothesis Testing

t-Statistic Test

This test aims to determine the partial effect of the independent variable on the dependent variable. The decision-making criteria for the t-test is to observe the significance or non-significance of the probability of the independent variable.

Table 7. t-Test Results

Variable	t-statistic	Prob.	Conclusion
PDRB	4.775410	0.0000	Significant
LNUMK	-2.157830	0.0337	Significant
LNUUI	20.53833	0.0000	Significant

Source: *Eviews 10 Application Data Processing, 2024*

The regression results with the selected REM model showed that the t-test found that the independent variables PDRB and UUI have a positive and significant impact on labor absorption in the Lampung Province for the years 2017-2022. Meanwhile, the UUI variable has a negative and significant impact on labor absorption in the Lampung Province for the years 2017-2022.

f-Statistic Test

In this test, the aim is to determine whether all independent variables used in the model have a simultaneous effect on the dependent variable.

Table 8. f-Test Results

f-statistic	f-table	Prob.	Conclusion
198.3991	3.10	0.0000	Significant

Source: *Eviews 10 Application Data Processing, 2024*

In the above f-test, the result of the f-statistic is $198.3991 > f\text{-table } 3.10$, with a significance level of 0.05 and a probability of $0.0000 < 0.05$. Therefore, the dependent variable is influenced by the independent variable simultaneously.

Coefficient of Determination (R²)

The criteria for a good regression model is when R-squared approaches the value of 1.00, where the range of the coefficient of determination is between $0 \leq R^2 \leq 1$.

Table 9. Determination Coefficient Test

R-squared	0.873752
Adjusted R-squared	0.869348

Source: *Eviews 10 Application Data Processing, 2024*

Based on the estimation results of panel data regression with the selected REM model, the R-squared value is 0.88, and the Adjusted R-squared value is also 0.88. It can be concluded that the independent variables can explain 88 percent of the changes in the dependent variable, and the remaining 22 percent is explained by other factors or variables outside the model.

The Effect of Gross Regional Domestic Product (GRDP) on Employment Absorption

Based on the estimated regression results of panel data with the selected Random Effect Model (REM), it is shown that the regression coefficient of economic growth with the proxy variable of GRDP at Constant 2010 Producer Price Sector Industry has a positive and significant influence on employment absorption in the Province of Lampung for the years 2017-2022. This study is consistent with previous research conducted by (Suaib & Agustina, 2022), (Sari et al., 2023), and (Ardiansyah et al., 2018), which stated that economic growth has a positive and significant influence on employment absorption.

The analysis results are in line with the classical economic growth theory of Adam Smith and David Ricardo in their theory called the Labor Theory of Value, which states that the more labor is used,

the higher the output produced from the production process. Thus, the total output generated from labor and economic resources becomes the main source of income and economic growth of a country, measured by the quantity of goods produced, which requires significant employment absorption in the production process (Robinson & Subrick, 2020).

According to the neoclassical Solow economic growth theory, economic growth will be achieved if there is an output growth, and the output growth is generated from the combination of two input factors, namely capital and labor. Therefore, an increase in economic output encourages increased employment absorption (Barro & Sala-i-Martin, 2008). Overall, various economic theories support the view that economic growth has a significant positive influence on employment absorption.

The Effect of Regional Minimum Wage on Employment Absorption

Based on the regression estimation results of panel data with the chosen REM model, it is shown that the regression coefficient of the minimum wage with the minimum wage proxy variable for District/City (UMK) has a negative and significant influence on employment absorption in Lampung Province for the years 2017-2022. This is supported by previous research conducted by (Holtemöller & Pohle, 2019), Suaib and Agustina (2022), Susilowati and Wahyuni (2019), Jaya and Kholilah (2020), Sari et al (2023), and (Prayudi et al., 2019).

The results of this study are in line with labor demand theory, which explains that the minimum wage will decrease as the demand for labor increases. Conversely, derivative demand will

increase if consumer demand for goods and services increases. This is because changes in the wage level will affect the production costs of the company. An increase in the wage level will increase the production costs of the company, which will subsequently increase the price per unit of the goods produced. As a result, many unsold goods will force producers to reduce the amount of production, leading to a decrease in the required workforce.

The Effect of Industrial Business Units on Employment Absorption

Based on regression panel data estimation results with the chosen REM model, it shows that the regression coefficient of Industrial Business Units with a proxy variable for the number of industrial processing sector business units has a positive and significant influence on employment absorption in the Lampung Province from 2017 to 2022. This is supported by previous research conducted by Amalia and Woyanti (2020), Handoyo and Rudatin (2023), Gulo et al. (2022), and Ardiansyah et al. (2018).

The Kaldorian industrial growth theory explains that the manufacturing sector is a growth engine for a region in increasing the growth of various sectors while also boosting economic growth. This theory explains that GDP growth has a positive relationship with the growth of the manufacturing sector. Furthermore, labor productivity in the manufacturing sector has a positive relationship with the growth of the manufacturing sector itself. In this case, the manufacturing sector is able to generate increasing returns to scale, and this theory states that the growth of non-manufacturing sectors has a positive relationship with the growth of the manufacturing sector.

CONCLUSION AND SUGGESTION

The results of the panel data regression analysis using the selected REM model in the research indicate that the influence of the Gross Regional Domestic Product (PDRB) ADHK of the Industrial Sector and the Number of Industrial Enterprises on employment absorption statistically has a positive and significant effect. Meanwhile, the Minimum Wage of Districts/Cities has a statistically negative and significant effect on employment absorption in the Lampung Province from 2017-2022.

The factors of economic growth and the increasing number of processing industrial enterprises, whether micro, small, medium, or large scale, have the greatest influence on employment absorption in the Lampung Province. This is because of the economic transformation in the industrial sector as a leading sector and as a job provider for the population to meet the job market.

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